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АКАДЕМИЯ МЕДИЦИНСКИХ НАУК СССР

**ПРОБЛЕМНЫЙ ПЛАН
НАУЧНЫХ ИССЛЕДОВАНИЙ
АКАДЕМИИ МЕДИЦИНСКИХ НАУК
СССР
на 1956—1960 годы**

МЕДГИЗ — 1956 — МОСКВА

**"PROBLEM PLAN OF SCIENTIFIC RESEARCH OF THE ACADEMY OF MEDICAL SCIENCES
OF THE USSR FOR 1956-1960"**

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Introduction:

The decisions of the XXth Convention of the Communist Party of the Soviet Union regarding the development of the people's economy in the USSR in the 6th five-year plan have placed on our medical sciences new important problems of importance.

In conjunction with this, according to instructions of the Communist Party and the Soviet Government during the last years within the framework of the Academy of Medical Sciences in the USSR, there were organized five new institutes for research and development. Material improvement has been accomplished in the scientific and technical equipment of a series of institutes, which will add to the growth of medical sciences in our country.

Along with the growth of Soviet medical science, came a growth in numbers of personnel. In a number of medical fields, along with the numerical strength, there was achieved the creative maturity, which is essential to the solution of the major problems of principles and of the practice of medicine at its most advanced levels.

In its ten years of existence, the Academy of Medical Sciences of the USSR with its institutes achieved the building of corps of young scientists capable of successfully pursuing continuously toward the goal of solving the problems facing the Academy.

In the light of the directives of the IXth Convention regarding the 6th five-year plan of the development of the people's economy in the USSR, the membership of the Academy of Medical Sciences, through the participation of the medical scientific members throughout the country, worked out the perspective five-year plan for research and development of the principal problems which face medical science.

This plan must be fulfilled by all Soviet scientists and physicians who are investigating the corresponding problems in cooperation with the scientific sections of the Academy.

It is the civil duty of each scientist in the Academy to assist in the achievement of the present five-year plan in complete correspondence with the problem of Soviet medical science and the needs of public health in the USSR.

The project of the problem plan of scientific research of the Academy of Medical Sciences for 1956-1960 was formulated by the Presidium through the participation of special problem commissions and the Institutes of the Academy of Medical Sciences. In it, are listed recommendations of the regular members and the corresponding members of the Academy of Medical Sciences of the USSR, as well as of the Committees of the All-Union Scientific Medical Societies.

In March 1956, the project plan was discussed at the tenth session of the full membership of the Academy; this resulted in the approval of the project proposed by the Presidium with a series of additions and modifications.

Thus this plan for scientific research in the present published form is a concrete and mandatory programme of scientific activities for the Membership of the Academy of Medical Sciences of the USSR for 1956-1960.

The decision of the tenth session obligates the scientific directors of the component units of the Academy to organise the scientific forces of the country toward a concerted fulfillment of this plan.

A. NESTOROV
Vice-President
Academy of Medical Sciences USSR

This is a rough draft of a translation of major headings of the text entitled: "Problem Plan for Research and Development in the Sixth Five-Year Plan (1956-1960)."

It is printed on 126 pages of text and an additional 10 pages of supplements to the "Problem Plan of the Academy of Medical Sciences of the U.S.S.R. for 1956-1960."

The headings in the Text appear in the following chronological order:

Physiology and Pathology of the Functioning Higher Nervous System

- (First individual problem) The Functioning Higher Nervous System of Animals
- (Second individual problem) Pathology of the Functioning Higher Nervous System and its Prophylaxis
- (Third individual problem) Orthogenesis and Development of the Individual Functioning Higher Nervous System
- (Fourth individual problem) Comparative Physiology and Pathology of the Functioning Higher Nervous System

The Basic Functioning Mechanisms of the Nervous System and Their Role in the Control of Motor Activities of the Organism

(Subdivided into 6 individual problems by topics)

The Structure and Functions of Albumin; Its Role in the Physiological Exchange

(7 individual problems)

Mechanisms of Therapeutic Action of Agents and Research Directed Toward New Pharmacologic and Hemotherapeutic Substances

(2 groups of problems)

Laws Regulating Alterations of Microbiologic Agents and Their Significance in Biology and Medicine

(8 individual problems)

Infection and Immunity

(4 individual problems)

Problems of Morphology

(10 individual problems)

The Foundation of Fundamental Prophylaxis and Therapy of Hypertension, Arteriosclerosis, and Coronary Insufficiency

(3 individual problems)

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Surgery of the Lung, Heart, and Major Blood Vessels

(5 individual problems)

Surgery of the Nervous System

(6 individual problems)

Pathogenesis, Prophylaxis and Therapy of Diseases of the Nervous System

(4 individual problems)

Malignant Neoplasms

Etiology and Pathogenesis of Tumors (Individual Problem I)

1. Role of Viruses in the Development of Tumors
2. Immunity in the Presence of Malignant Tumors
3. The Role of Chemical Carcinogens in the Development of Tumors
4. The Role of Actinic Agents in the Development of Tumors
5. Role of Disturbed Nervous System and Hormonal Disturbance in the Pathogenesis of Tumors
6. Biochemical Peculiarities of Tumors and of the Tumor Bearing Host
7. Development of New Experimental Models for the Study of Tumor Growth and the Establishment of Tumor Strains Taken from Patients and Utilizing the Method for Hetero Transplant of Strains
8. The Role of Nutrition in the Pathogenesis of Tumors
9. The Role of Heredity in the Pathogenesis of Tumors
10. Question of Comparative Oncology

Tumor Prophylaxis (Individual Problem II)

1. Questions of pre-cancer in the light of Clinical and Experimental Experience
2. Study of Environmental Carcinogens in the Human Environment with a view to prevention of Cancer

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3. Immuno-prophylaxis of Tumors; the Role of Mass Examination of Population for Tumor Prophylaxis

Methods of Diagnosis and Therapy of Tumors (Individual Problem III.)

1. Methods of Tumor Diagnosis
2. Improved Surgical Radiation and Combined Methods in the Therapy of Tumors and the Study of their Efficacy
3. Chemical Bio-hormonal Therapy of Tumors
4. Mechanisms of Cure of Malignant Tumors

Organization of Cancer Control (Individual Problem IV.)

1. Scientific Statistical Data on Malignant Tumors
2. Study of the Effectiveness of Cancer Control Methods
3. Study of the Regional Peculiarities in the Development and Spread of Tumors
4. Anti-Cancer Propaganda

Etiology, Prophylaxis and Therapy of T. B.

(4 individual problems)

Epidemiology, Prophylaxis and Therapy of Intestinal Infections in General and of Dysentery in Particular

(6 individual problems)

Health Protection of Mother and Child

(7 individual problems)

Etiology, Epidemiology, Prophylaxis and Therapy of Acute Infectious Diseases of Childhood (measles, scarlet fever, pertussis and diphtheria)

(4 individual problems)

Physiological Basis for the Rational Nutrition of Man in Health and in Disease

(7 individual problems)

Industrial Hygiene and Prophylaxis Against Industrial Diseases

(5 individual problems)

Urban Hygiene (4 individual problems)

Etiology, Epidemiology and Immunology of Virus Diseases with Particular Reference to Influenza

(3 individual problems)

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Epidemic Poliomyelitis (6 individual problems)New Antibiotics and Synthetic Chemotherapeutic Agents (5 individual problems)Problem of Medical Radiology

" In the directives of the XXth Congress of the Communist Party of the Soviet Union, there is a considerable development and utilization of atomic energy in industry, agriculture, biology and in medicine. This decision taken at the Congress makes it essential to bring into this field an ever increasing number of people who may come in contact with sources of ionizing radiation. The increasing production and the application of radioactive substances and their inevitable concentration in the environment creates a danger of chronic exposure to ionizing radiation of man and animals including genetic consequences. In accordance with the stated plan of research in the field of radiobiology, there shall be included the following individual problems:

1. Pathogenesis of exposure to radiation in the development of this individual problem, special attention will be given to the following important questions dealing with pathogenesis of radiation sickness.
 1. Mechanism of the primary action of ionizing reactions
of
 2. Characteristics/pathogenic action of different kinds of radiation under conditions of varying quality and quantity of radiation
 3. Role of the toxic factors in blood and tissues following radiation exposure
 4. Mechanisms disrupting hematopoiesis in radiation sickness
 5. Mechanisms concerned in the development of hemorrhages in radiation sickness
 6. Pathomorphology of radiation exposure particularly in the chronic forms
 7. The significance of age and sex in the development of radiation effects.
 8. Characteristic course following exposure to radioactive isotopes introduced into the body
 9. Characteristic development of radiation sickness as background to different pathologic processes.
 10. Effect of environmental factors on the development and course of radiation sickness

Research project assigned to the Institute of Experimental Medicine, Academy of Medical Sciences, U.S.S.R., Institute of Pathology and Physiology,

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Academy of Medical Sciences, U.S.S.R., Institute of Pediatrics, Academy of Medical Sciences, U.S.S.R., Institute of Biology and Medical Chemistry, Academy of Medical Sciences, U.S.S.R., Central Institute of Hematology and Blood Transfusion, Leningrad Institute of Blood Transfusion, All-Union Institute of Experimental Endocrinology, Central Scientific Research Institute of Roentgenology and Radiology; Corresponding Members of the Academy of Medical Sciences, U.S.S.R.: P. D. Gerisontov, N. A. Krayevsky, and V. A. Sanotsky.

Radiation Sickness, Infection and Immunity (individual problem II.)

The Clinical Course Treatment and Prophylaxis of Radiation Sickness
(individual problem III.)

Radiation Sickness and Pregnancy (individual problem IV.)

Synthesis and Assay of Therapeutic Agents for Treatment and Prophylaxis
of Radiation Sickness

Questions of Hygiene in Radiobiology

Age Characteristics in Childhood, Growth, and Development in Health and
Disease

(12 individual problems)